

REMARKS

This paper is in response to the final official action of November 17, 2005.

Reconsideration is requested.

Applicant has carefully reviewed and considered the action and the references cited therewith. Entry of the foregoing amendments is respectfully requested. Claims 1, 4, and 6 have been amended. Claims 1-14 are under consideration. Reconsideration is requested.

Claim Rejections - 35 U.S.C. §112

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In order to overcome the rejection, the applicant has amended independent claims 1 and 6 to omit the phrases referred to by the examiner, in order to more clearly describe the invention without adding any new matter. It is believed the amended claims are not subject to the rejection and withdrawal of the rejection is solicited.

Claim Rejections - 35 U.S.C. §102

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Wu (2002/0115270). Reconsideration is requested.

The invention provides a method of forming a device isolation film in a semiconductor device in which a performance of a device can be improved by making a constant ion concentration distribution of a region where ions for controlling a threshold voltage are implanted.

Wu provides a method of fabricating high-reliability and high-efficiency isolation for advance high-density integrated-circuit fabrication with maximized active area and minimized isolation area.

To accomplish its purpose, the invention provides a step of performing a second ion implantation into a whole active region (Fig.5, A) to compensate for an ion concentration of the active region (Fig.5, A).

However, Wu does not teach or suggest the step of performing a second ion implantation into a whole active region to compensate for an ion concentration of the active region.

The ion implantation of Wu is performed into the trench surface regions (102b) and the surface regions (102c) under the extended buffer spacers without affecting the active area.

Also, the second ion of the present invention is implanted through a gate oxide film, a polysilicon film, and a pad nitride film, on the other hand, the ion of Wu is implanted through laminated oxide film.

Therefore, there are clear differences between the present invention and the disclosure Wu.

Accordingly, the applicant believes that the amended claim 1 and dependent claim 5 are in condition for allowance. Such action is solicited.

Claim Rejections - 35 U.S.C. §103

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0115270) taken with Oda et al. (2002/0086498).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0115270) taken with Hong (6,030,882).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0115270) taken with Oda et al. (2002/0086498).

Claims 2-4 depend from claim 1, and are believed to be patentable on the same basis as claim 1, as the secondary references do not remedy the deficiencies of Wu, as noted above.

Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0115270) taken with Sung (5,550,078). Reconsideration is requested.

Amended claim 6 recites a step of performing a second ion implantation into a whole active region to compensate for an ion concentration of the active region.

As mentioned above, Wu and Sung do not teach or suggest a step of performing a second ion implantation into a whole active region to compensate for an ion concentration of the active region, and thus do not render claims 6 and 14 obvious.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0115270) and Sung (5,550,078) as applied to claim 6 above, taken with Oda et al (2002/0086498).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0115270) and Sung (5,550,078) as applied to claim 6 above, taken with Hong (6,030,882).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0115270) and Sung (5,550,078) as applied to claim 6 above, taken with Oda et al (2002/0086498).

Dependent claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0115270) and Sung (5,550,078) as applied to claim 6 above, and further of Houlihan (2001/0021545) or Dong (2003/0119256).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0115270) and Sung (5,550,078) as applied to claim 6 above, and further of Kim (2003/0067050) and/or Dong (2003/0119256).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0115270) and Sung (5,550,078) as applied to claim 6 above, and further of Sung et al (6,180,453) and/or Dong (2003/0119256).

Claims 7-13 all depend from claim 6, and are believed to be patentable on the same basis as claim 6, as the secondary references do not remedy the deficiencies of the Wu reference, as noted above.

Entry of the foregoing amendments as placing the application in condition for allowance or in better form for appeal is believed proper and is solicited, as the amendments are being made in response to rejections first raised in the final official action.

Should the examiner wish to discuss the foregoing or any matter of form in an effort to advance this application toward allowance, he is urged to telephone the undersigned at the indicated number.

Respectfully submitted,

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